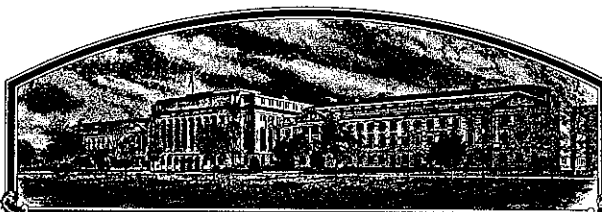


No.

8600021



THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

Asgrow Seed Company

Whereas, THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED NOVEL VARIETY OF SEXUALLY REPRODUCED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF *eighteen* YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, OR IMPORTING IT, OR EXPORTING IT, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT (U.S.C. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

SOYBEAN

'A2187'

In Testimony Whereof, I have hereunto set my hand and caused the seal of the Plant Variety Protection Office to be affixed at the City of Washington, D.C. this 31st day of March in the year of our Lord one thousand nine hundred and eighty-seven.

Attest:

Kenneth H. Evans
Commissioner

Plant Variety Protection Office
Agricultural Marketing Service

Richard E. Lyng
Secretary of Agriculture

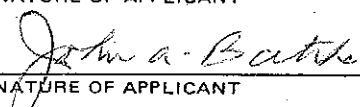
U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE

FORM APPROVED: OMB NO. 0581-0055

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE

(Instructions on reverse)

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).

1. NAME OF APPLICANT(S) Asgrow Seed Company		2. TEMPORARY DESIGNATION	3. VARIETY NAME A2187
4. ADDRESS (Street and No. or R.F.D. No., City, State, and Zip Code) 9620-190-25 Gull Road, Bldg. 190 Kalamazoo, MI 49001		5. PHONE (Include area code) 616-385-6605	FOR OFFICIAL USE ONLY PVPO NUMBER 8600021
6. GENUS AND SPECIES NAME Glycine max	7. FAMILY NAME (Botanical) Leguminose		FILING DATE 11/20/85 TIME 2:00 <input type="checkbox"/> A.M. <input checked="" type="checkbox"/> P.M.
8. KIND NAME Soybean	9. DATE OF DETERMINATION September 1980		AMOUNT FOR FILING \$ 1,800 DATE 10/25/85
10. IF THE APPLICANT NAMED IS NOT A "PERSON," GIVE FORM OF ORGANIZATION (Corporation, partnership, association, etc.) Corporation		FEE RECEIVED AMOUNT FOR CERTIFICATE \$ 200. ⁰⁰ DATE 2/13/87	
11. IF INCORPORATED, GIVE STATE OF INCORPORATION Delaware		12. DATE OF INCORPORATION March 22, 1968	
13. NAME AND ADDRESS OF APPLICANT REPRESENTATIVE(S), IF ANY, TO SERVE IN THIS APPLICATION AND RECEIVE ALL PAPERS John Batcha 9620-190-25 Asgrow Seed Company Gull Road, Bldg. 190 - Kalamazoo, MI 49001 PHONE (Include area code): 616-385-6605			
14. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED a. <input checked="" type="checkbox"/> Exhibit A, Origin and Breeding History of the Variety (See Section 52 of the Plant Variety Protection Act.) b. <input checked="" type="checkbox"/> Exhibit B, Novelty Statement. c. <input checked="" type="checkbox"/> Exhibit C, Objective Description of Variety (Request form from Plant Variety Protection Office.) d. <input checked="" type="checkbox"/> Exhibit D, Additional Description of Variety. e. <input checked="" type="checkbox"/> Exhibit E, Statement of the Basis of Applicant's Ownership.			
15. DOES THE APPLICANT(S) SPECIFY THAT SEED OF THIS VARIETY BE SOLD BY VARIETY NAME ONLY AS A CLASS OF CERTIFIED SEED? (See Section 83(a) of the Plant Variety Protection Act.) <input type="checkbox"/> Yes (If "Yes," answer items 16 and 17 below) <input checked="" type="checkbox"/> No			
16. DOES THE APPLICANT(S) SPECIFY THAT THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS? <input type="checkbox"/> Yes <input type="checkbox"/> No		17. IF "YES" TO ITEM 16, WHICH CLASSES OF PRODUCTION BEYOND BREEDER SEED? <input type="checkbox"/> Foundation <input type="checkbox"/> Registered <input type="checkbox"/> Certified	
18. DID THE APPLICANT(S) PREVIOUSLY FILE FOR PROTECTION OF THE VARIETY IN THE U.S.? <input type="checkbox"/> Yes (If "Yes," give date) <input checked="" type="checkbox"/> No			
19. HAS THE VARIETY BEEN RELEASED, OFFERED FOR SALE, OR MARKETING IN THE U.S. OR OTHER COUNTRIES? <input type="checkbox"/> Yes (If "Yes," give names of countries and dates) <input checked="" type="checkbox"/> No			
20. The applicant(s) declare(s) that a viable sample of basic seeds of this variety will be furnished with the application and will be replenished upon request in accordance with such regulations as may be applicable. The undersigned applicant(s) is (are) the owner(s) of this sexually reproduced novel plant variety, and believe(s) that the variety is distinct, uniform, and stable as required in Section 41, and is entitled to protection under the provisions of Section 42 of the Plant Variety Protection Act. Applicant(s) is (are) informed that false representation herein can jeopardize protection and result in penalties.			
SIGNATURE OF APPLICANT 		DATE October 11, 1985	
SIGNATURE OF APPLICANT		DATE	

Asgrow Seed Company
PVP Application A2187 Soybean
October 11, 1985

EXHIBIT A

Origin and Breeding History of A2187

- 1978 - Cross was made at Ames, Iowa
PARENTS: A2 * A2575
- 1978-79 - F₁ and F₂ generations grown at Delray Beach, Florida
(winter)
- 1979 - F₃ generation grown at Ames, Iowa. Two-hundred plants were selected from the bulk population and threshed individually.
- 1980 - Progeny row D78287-D80-05921 was selected for its uniformity, standability and disease resistance. This row was harvested in bulk and seeds were checked and verified for uniform seed coat luster and hilum color.
- It was in September, 1980, that D78287-D80-05921 was determined to be a stable and unique line.
- 1981 - D78287-D80-05921 was entered in the Preliminary P108 yield tests conducted at two locations in Iowa and Minnesota. It produced uniform stands and was selected for its high yield, standability and tolerance to iron chlorosis.
- 1982 - D78287-D80-05921 was entered in the Strain S102 yield tests conducted at six locations in Iowa and Minnesota. It was selected as the fourth highest yielding variety out of 30 entries in the test.
- D78287-D80-05921 was assigned the maturity designation X2187.
- 1983 - X2187 was entered in the Variety V100 and V201 yield tests which were grown at 16 locations in Iowa, Minnesota, Illinois, Indiana and Ohio. It was selected for its consistent high yield, standability, disease resistance and tolerance to iron chlorosis.
- X2187 was nominated for pilot production and assigned the designation XP2287. Breeder seed was produced at Ames, Iowa.
- 1984 - XP2287 was entered in the Variety V100 and V201 yield tests which were grown at 18 locations in Iowa, Minnesota, Illinois and Indiana. It was selected for its consistently superior performance.

continued on back...

Exhibit A continued...

(1984 continued)

Foundation seed of XP2287 was produced near Perry, Iowa.

XP2287 was nominated for release and full production and assigned the designation A2187.

Trial evaluations since 1980 indicate A2187 is uniform and stable. As with other soybean varieties, variants can occur for almost any characteristic during the course of repeated sexual reproduction.

JEM:js

Asgrow Seed Company
PVP Application A2187 Soybean
October 11, 1985

EXHIBIT B

Novelty Statement Concerning A2187 Soybean

To our knowledge the soybean varieties that most closely resemble A2187 are A2575, HP20-20 and AP200. Characteristics which differentiate A2187 include, but are not necessarily restricted to, the following:

1. Flower Color:

A2187 = Purple
A2575 = Purple
HP20-20 = Purple
AP200 = White

2. Reaction to race 1 of Phytophthora megasperma Drechs. f.sp. glycinea:

A2187 = Resistant
A2575 = Resistant
HP20-20 = Susceptible
AP200 = Resistant

3. Hilum Color:

A2187 = Yellow
A2575 = Buff
HP20-20 = Yellow
AP200 = Buff

JEM:js

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
LIVESTOCK, MEAT, GRAIN & SEED DIVISION
PLANT VARIETY PROTECTION OFFICE
BELTSVILLE, MARYLAND 20705

EXHIBIT C
(Soybean)

OBJECTIVE DESCRIPTION OF VARIETY
SOYBEAN (*Glycine max* L.)

NAME OF APPLICANT(S) Asgrow Seed Company	TEMPORARY DESIGNATION	VARIETY NAME A2187
ADDRESS (Street and No., or R.F.D. No., City, State, and Zip Code) 9620-190-25 Gull Road, Bldg. 190 Kalamazoo, MI 49001		FOR OFFICIAL USE ONLY PVPO NUMBER 86000021

Choose the appropriate response which characterizes the variety in the features described below. When the number of significant digits in your answer is fewer than the number of boxes provided, place a zero in the first box when number is 9 or less (e.g.,). Starred characters ★ are considered fundamental to an adequate soybean variety description. Other characters should be described when information is available.

1. SEED SHAPE:



1 = Spherical (L/W, L/T, and T/W ratios = < 1.2)
3 = Elongate (L/T ratio > 1.2; T/W = < 1.2)

2 = Spherical Flattened (L/W ratio > 1.2; L/T ratio = < 1.2)
4 = Elongate Flattened (L/T ratio > 1.2; T/W > 1.2)

★ 2. SEED COAT COLOR: (Mature Seed)

1 = Yellow

2 = Green

3 = Brown

4 = Black

5 = Other (Specify) _____

3. SEED COAT LUSTER: (Mature Hand Shelled Seed)

1 = Dull ('Corsoy 79'; 'Braxton')

2 = Shiny ('Nebsoy'; 'Gasoy 17')

★ 4. SEED SIZE: (Mature Seed)

Grams per 100 seeds

★ 5. HILUM COLOR: (Mature Seed)

1 = Buff

2 = Yellow

3 = Brown

4 = Gray

5 = Imperfect Black

6 = Black

7 = Other (Specify) _____

★ 6. COTYLEDON COLOR: (Mature Seed)

1 = Yellow

2 = Green

★ 7. SEED PROTEIN PEROXIDASE ACTIVITY:

1 = Low

2 = High

★ 8. SEED PROTEIN ELECTROPHORETIC BAND:

1 = Type A (SP^{1a})

2 = Type B (SP^{1b})

★ 9. HYPOCOTYL COLOR:

1 = Green only ('Evans'; 'Davis')

2 = Green with bronze band below cotyledons ('Woodworth'; 'Tracy')

3 = Light Purple below cotyledons ('Beeson'; 'Pickett 71')

4 = Dark Purple extending to unifoliate leaves ('Hodgson'; 'Coker Hampton 266A')

★ 10. LEAFLET SHAPE:

1 = Lanceolate

2 = Oval

3 = Ovate

4 = Other (Specify) _____

11. LEAFLET SIZE:

- 1 = Small ('Amsoy 71'; 'A5312') 2 = Medium ('Corsoy 79'; 'Gasoy 17')
 3 = Large ('Crawford'; 'Tracy')

12. LEAF COLOR:

- 2 = 1 = Light Green ('Weber'; 'York') 2 = Medium Green ('Corsoy 79'; 'Braxton')
 3 = Dark Green ('Gnome'; 'Tracy')

★ 13. FLOWER COLOR:

- 2 = 1 = White 2 = Purple 3 = White with purple throat

★ 14. POD COLOR:

- 2 = 1 = Tan 2 = Brown 3 = Black

★ 15. PLANT PUBESCENCE COLOR:

- 1 = 1 = Gray 2 = Brown (Tawny)

16. PLANT TYPES:

- 2 = 1 = Slender ('Essex'; 'Amsoy 71') 2 = Intermediate ('Amcor'; 'Braxton')
 3 = Bushy ('Gnome'; 'Govan')

★ 17. PLANT HABIT:

- 3 = 1 = Determinate ('Gnome'; 'Braxton') 2 = Semi-Determinate ('Will')
 3 = Indeterminate ('Nebsoy'; 'Improved Pelican')

★ 18. MATURITY GROUP:

- 0 5 = 1 = 000 2 = 00 3 = 0 4 = I 5 = II 6 = III 7 = IV 8 = V
 9 = VI 10 = VII 11 = VIII 12 = IX 13 = X

★ 19. DISEASE REACTION: (Enter 0 = Not Tested; 1 = Susceptible; 2 = Resistant)

BACTERIAL DISEASES:

- ★ 0 Bacterial Pustule (*Xanthomonas phaseoli* var. *sojensis*)
 ★ 1 Bacterial Blight (*Pseudomonas glycinea*)
 ★ 0 Wildfire (*Pseudomonas tabaci*)

FUNGAL DISEASES:

- ★ 0 Brown Spot (*Septoria glycines*)
 Frogeye Leaf Spot (*Cercospora sojae*)
 ★ 0 Race 1 0 Race 2 0 Race 3 0 Race 4 0 Race 5 Other (Specify)
 0 Target Spot (*Corynespora cassiicola*)
 1 Downy Mildew (*Peronospora trifoliorum* var. *manshurica*)
 1 Powdery Mildew (*Microsphaera diffusa*)
 ★ 1 Brown Stem Rot (*Cephalosporium gregatum*)
 0 Stem Canker (*Diaporthe phaseolorum* var. *caulivora*)

RECEIVED

OCT 25 1985

AMS
PVPD

19. DISEASE REACTION: (Enter 0 = Not Tested; 1 = Susceptible; 2 = Resistant) (Continued)

FUNGAL DISEASES: (Continued)

- ★ ☐ 0 Pod and Stem Blight (*Diaporthe phaseolorum* var. *sojae*)
- ☐ 0 Purple Seed Stain (*Cercospora kikuchii*)
- ☐ 0 Rhizoctonia Root Rot (*Rhizoctonia solani*)
- Phytophthora Rot (*Phytophthora megasperma* var. *sojae*)
- ★ ☐ 2 Race 1 ☐ 2 Race 2 ☐ 1 Race 3 ☐ 1 Race 4 ☐ 0 Race 5 ☐ 0 Race 6 ☐ 1 Race 7
- ☐ 0 Race 8 ☐ 1 Race 9 ☐ 2 Other (Specify) Race 12

VIRAL DISEASES:

- ☐ 0 Bud Blight (Tobacco Ringspot Virus)
- ☐ 0 Yellow Mosaic (Bean Yellow Mosaic Virus)
- ★ ☐ 0 Cowpea Mosaic (Cowpea Chlorotic Virus)
- ☐ 0 Pod Mottle (Bean Pod Mottle Virus)
- ★ ☐ 0 Seed Mottle (Soybean Mosaic Virus)

NEMATODE DISEASES:

- Soybean Cyst Nematode (*Heterodera glycines*)
- ★ ☐ 0 Race 1 ☐ 0 Race 2 ☐ 1 Race 3 ☐ 1 Race 4 ☐ Other (Specify) _____
- ☐ 0 Lance Nematode (*Hoplolaimus Colombus*)
- ★ ☐ 0 Southern Root Knot Nematode (*Meloidogyne incognita*)
- ★ ☐ 0 Northern Root Knot Nematode (*Meloidogyne Hapla*)
- ☐ 0 Peanut Root Knot Nematode (*Meloidogyne arenaria*)
- ☐ 0 Reniform Nematode (*Rotylenchulus reniformis*)
- ☐ OTHER DISEASE NOT ON FORM (Specify): _____

20. PHYSIOLOGICAL RESPONSES: (Enter 0 = Not Tested; 1 = Susceptible; 2 = Resistant)

- ★ ☐ 2 Iron Chlorosis on Calcareous Soil
- ☐ Other (Specify) _____

21. INSECT REACTION: (Enter 0 = Not Tested; 1 = Susceptible; 2 = Resistant)

- ☐ 0 Mexican Bean Beetle (*Epilachna varivestis*)
- ☐ 0 Potato Leaf Hopper (*Empoasca fabae*)
- ☐ Other (Specify) _____

22. INDICATE WHICH VARIETY MOST CLOSELY RESEMBLES THAT SUBMITTED.

CHARACTER	NAME OF VARIETY	CHARACTER	NAME OF VARIETY
Plant Shape	A2575	Seed Coat Luster	A2575
Leaf Shape	A2575	Seed Size	A1937
Leaf Color	A2575	Seed Shape	A2522
Leaf Size	A2575	Seedling Pigmentation	A2575

8600021

23. GIVE DATA FOR SUBMITTED AND SIMILAR STANDARD VARIETY: Paired Comparison Data

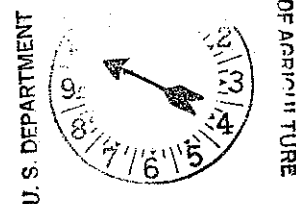
VARIETY	NO. OF DAYS MATURITY	PLANT LODGING SCORE	CM PLANT HEIGHT	LEAFLET SIZE		SEED CONTENT		SEED SIZE G/100 SEEDS	NO. SEEDS/POD
				CM Width	CM Length	% Protein	% Oil		
A2187 Submitted	124	1.4	84	6.5	10.8	40.2	20.1	15.1	
A2575 Name of Similar Variety	127	1.7	91	6.5	11.6	41.0	19.2	16.8	

PUBLICATIONS USEFUL AS REFERENCE AIDS FOR COMPLETING THIS FORM:

1. Caldwell, B.E., ed. 1973. Soybeans: Improvement, Production, and Uses. Amer. Soc. Agron. Monograph No. 16.
2. Buttery, B.R. and R.I. Buzzell. 1968. Peroxidase activity in seeds of soybean varieties. Crop Sci., 8: 722-725.
3. Hymowitz, T. 1973. Electrophoretic analysis of SBT1-A₂ in the USDA soybean germplasm collection. Crop Sci., 13: 420-421.
4. Payne, R.C. and L.F. Morris. 1976. Differentiation of soybean cultivars by seedling pigmentation patterns. J. Seed Technol. 1: 1-19.

RECEIVED

OCT 25 1985



AMS

PVPO

8

Asgrow Seed Company
PVP Application - Soybean A2187
October 11, 1985

EXHIBIT D

Additional Description of the Variety

A2187 is an early Maturity Group II cultivar that possesses an outstanding combination of characters needed by producers in its maturity zone. It combines good yield potential, excellent standability, good emergence, good disease tolerance and good iron chlorosis tolerance. It, therefore, provides growers a superior alternative to many widely grown early Group II cultivars.

lka

Asgrow Seed Company
PVP Application - Soybean A2187
October 11, 1985

EXHIBIT E

Statement of the Basis of Applicant's Ownership

A2187 was originated and developed by John A. Schillinger and James Miller, Asgrow Plant Breeders. By agreement between employee and Asgrow Seed Company, all rights to any invention, discovery, or development made by an employee are assigned to the Company. No rights to such invention, discovery, or development are retained by the employee.

mga
b:A2187